

**REVITALIZING POLICIES FOR FOOD SECURITY
AND POVERTY ALLEVIATION IN SOUTH ASIA
Three Case Studies in India**

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Revitalizing Policies for Food Security and Poverty Alleviation in South Asia

1. Introduction

South Asia Initiative (SAI) of the International Food Policy Research received overwhelming support from USAID (India and the agency's Global and Asia/Near east Bureaus) along with other donors (particularly Ford Foundation and Asian Development Bank) to strengthen policy research, communication and capacity development. The SAI launched various programs containing three layers: (i) regular dialogues with the Policy Analysis and Advisory Network for South Asia (PAANSA) to strengthen the policy dialogue between researchers and policy advisors/makers of the region, (ii) conduct high quality applied research on issues of importance to the region, and (iii) undertake capacity strengthening programs for researchers and policy advisors. The USAID (India) contributed towards implementing policy research in high priority areas delineated by the PAANSA members to strengthen action oriented research, exchange and training programs, and more effective and frequent policy dialogues with policy advisors and decision makers.

This project is supported by USAID (India) to provide alternative policy options in the emerging debate on following issues:

- a. What role can the private sector play in food grain management, especially in terms of procurement, stocking, distribution and external trade? How cost effective could it be vis-à-vis the public agencies? And finally, what is the appropriate overall regulatory environment for private sector operations?
- b. What has been the role of input subsidies in agriculture? Who really benefits from those subsidies, how effective are they in terms of their impact on agricultural production, what is their impact on the environment, and is there any need to rationalize the subsidy regime?
- c. What has been the nature and speed of diversification in food surplus states of Punjab and Andhra Pradesh? What sort of vertical linkages between the farm and firm are likely to emerge? What sort of enabling environment is necessary for India, particularly Punjab and Andhra Pradesh, to take a lead in graduating to high-value agriculture?

This report documents the activities and accomplishments of the studies for the quarter from April to June 2004.

2. Research

Three interrelated case studies in Andhra Pradesh and Punjab are in progress and near completion. These studies are related to (i) private sector participation in grain management, (ii) rationalization of input subsidies in agriculture, and (iii) diversification of agriculture and farm-firm linkages. A brief account of the progress during the reporting period is given below:

2.1 Private Sector Participation in Grain Management

A preliminary draft report on 'foodgrain management: state and private sector in India with special reference to Punjab' was completed and is under review process. The salient findings of the study are given below:

The present foodgrain management system in India is dominated by public agencies especially the FCI at the national level. The operations of FCI are financed from the food subsidy bill of the government of India. The food subsidy bill has grown from Rs. 6.5 billion in 1980-81 to Rs. 176.1 billion in the year 2001-02. Food subsidy has grown at an average annual rate of 7.6 percent. On the other hand, the benefits to the consumers through the PDS have been small and the tight system of controls and restrictions has foreclosed other options for the agricultural producers. All these issues have fanned the contemporary debate on foodgrain management. The recent debates have focused on the high cost being borne by the economy in terms of food subsidy bill, inefficient public procurement machinery, leakages from the PDS and the burgeoning foodgrain stocks. Further, what has alarmed many is that despite accumulation of huge foodgrain stocks at the national level, there are still reports of acute malnourishment food scarcity from few pockets.

Punjab is a special case, which spearheaded the 'Green Revolution' that enabled rapid growth in agricultural production, but now showing signs of stagnation. Continuous production of water-intensive crops causing speedy fall in the watertable, that has raised doubts as to whether the state would be able to sustain the growth in agricultural production in the future. All this has necessitated that the present study that focused on various issues relating to the foodgrain management system in India with special reference to Punjab. The study examined the efficiency of the existing grain management system with focus on the respective role of the public and private sector and dealt more with operations of FCI in terms of its objectives, performance and efficiency. The study has also delve into the possibilities for transforming the grain management system to one that is financially sustainable, cost-efficient and competitive and; identify the policy options for reaping the potential benefits of reforms in the food sector.

The study has given a number of recommendations, which are under further review. Few policy recommendations are listed below:

- **Functioning of FCI:** Numerous measures need to be adopted to improve the functioning of FCI in the short run and thereafter to enable transition to a leaner organization, which handles the open market and price stabilization operations alone. A key measure among them is that rather than FCI functioning as an extension arm of the central government, there should be a memorandum of understanding which makes it imperative to curtail costs. The FCI could then operate with greater autonomy and this would enhance accountability.
- **Improving efficiency of FCI:** The analysis of costs of FCI's operations has depicted that there is considerable room for improvement and economy as regards handling and administrative expenses, storage costs and transit and storage losses. Therefore measures need to be taken

for facilitating the transition by reducing these costs. One of the functions performed by the FCI is storage of foodgrains. As the warehousing corporations both at the central and the state level are specialized storage agencies and their cost of storage is lower, the FCI could transfer its storage capacity to these organizations and undertake storage of foodgrains through sub-contracting either with these bodies. Another possibility is to outsource storage of foodgrains to private parties.

- **Food Policy Reforms:** In the long run, we need to rely on a scenario where the private sector plays a dominant role. A vibrant private sector can reduce foodgrain management costs in the country. But for this, the factors that are constraining the growth of private sector need to be addressed. One key issue in this sphere is changes in food policy of the government.
- **Procurement of rice and wheat:** Open ended procurement should be substituted by limited public procurement. Simultaneously, farmers may be reimbursed the difference between the announced MSP and market price. It should also be supported by providing insurance to farmers for covering their income risk and allowing markets to operate freely. Active participation of insurance sector needs to be encouraged.
- **Public distribution and buffer stocking:** The long-term vision for public distribution of foodgrains may involve a transition to food coupons instead of provision of foodgrains through fair price shops. The buffer stocking policy needs to change in line with unbreachable buffer stock norms, purchases of foodgrain stocks at market prices, outsourcing of storage of foodgrains to the private sector and open market operations based on a pre-announced price band.
- **Warehouse receipts:** Warehouse receipts could be made fully negotiable through legislation and publicity could be undertaken to build acceptability. In the long run what is required is that all receipts are accounted for, electronically transferable and tracked at all times. A credible warehousing receipt system could become the backbone of a vibrant agricultural marketing sector.
- **Futures markets:** Strengthen futures markets for price stabilization and providing advance signals for deciding production portfolio.
- **Infrastructure:** Development of private trade requires large investments in rural infrastructure in the shape of roads and markets. Better infrastructure would lead to greater integration of markets, increased market size and prevention of distress sales, which in turn would encourage the producers to explore private marketing avenues. Therefore, a complete chain of infrastructure is needed starting from transportation in special vehicles from the mandi, delivery of grain straight into the silos, transportation through specially made wagons and delivery of grain directly.
- **Reform in legal structure:** The legal restrictions imposed through the Essential Commodities (EC) Act, mandi acts, APMC Act, stock limits, price controls, movement restrictions, licensing and credit controls need to be withdrawn for active participation of the private sector.

2.2 Rationalization of Input Subsidies in Agriculture

Two studies on rationalization of input subsidies in Punjab and Andhra Pradesh are under progress. Some of the key findings and suggestions emanating from the study are listed below:

Rationalization of input subsidies in Punjab

A preliminary draft report on rationalization of input subsidies in Punjab has been completed, which is under review process.

Power, fertilizer and irrigation subsidies are the key input subsidies provided for agriculture in the state of Punjab. The power subsidy for agricultural consumers stood at Rs. 22510 million in 2000-01 while irrigation subsidy amounted to Rs. 1389.63 million in 2001-02. The fertilizer subsidy was Rs. 10380.7 million in the year 2001-02. While power subsidy has grown annually in real terms at the rate of 14.9 percent during the period from 1981-82 to 2000-01, fertilizer subsidy grew by 5 percent and irrigation subsidy grew by 10.5 percent during the same period. Thus considering the amount of subsidy reported for each of these components, not only was power subsidy the largest subsidy, it also grew at the fastest rate.

The amount of power consumed by the agricultural sector is derived on a residual basis after accounting for the metered supply. So, there is scope for camouflaging T&D losses, theft, and operational inefficiencies as agricultural consumption. While the PSEB had reported the share of agricultural consumption as 37.7 percent in the year 1999-00, it was reduced to 27.41 percent in the year 2000-01. Simultaneously the T&D losses were increased. Similarly in the case of irrigation, the operational inefficiencies in terms of overstaffing and over capitalization are pushing up subsidy estimates. As regards fertilizer subsidy, the import parity price method was used to determine the benefit accruing to Punjab farmers from fertilizer subsidy. The estimation shows that while during 1994-95 to 1996-97 the fertilizer industry was 'net-taxed', since then it has been getting about 50 percent of the fertilizer subsidy given by the central government. The nominal production coefficients for Punjab on an importable hypothesis indicate that the agricultural sector has been 'net-taxed' since the year 1981, so actually it is the consumers of agricultural produce who have gained substantially from the input subsidies.

While input subsidies for power, fertilizer and irrigation acted as catalyst for promoting adoption of new technology, raising agricultural production and achieving food self-sufficiency, the subsidies have put a financial strain on the government and have contributed to the decline in public investment. The other negative fallout has been inefficient resource use, declining water tables, spatial, inter-personal and inter-temporal inequity.

Power sector reforms both at the national and the state level have led to constitution of the electricity regulatory commissions, rationalization of tariffs, and transparent provision of power subsidy. In case of fertilizer sector, group-wise retention pricing has been introduced to promote efficiency and reduce the fertilizer subsidy. On the irrigation front, the state of Punjab has reintroduced water rates with effect from November 2002.

The process of rationalization of subsidies requires the decanalization of urea imports and deregulating the fertilizer industry. In case retail prices of fertilizers are to be increased significantly, then efforts may be made to offset this through some increase in the procurement price and improvements in the fertilizer use ratio. Institutional reforms aimed at better quality of service need to accompany the recovery of O&M expenses and one percent of the capital cost of irrigation systems. Also, the latter should be adjusted for the high administrative costs of the

irrigation agency. User groups need to be involved in the management of the irrigation system in a bigger way. Further, efficient use of water resources could be promoted through incentives for water-saving technologies and through legislation and regulatory oversight. Diversifying agriculture away from the water-intensive crops could also check over-exploitation of water and the decline in water tables. Gradually market-based allocation and private participation can be encouraged by setting up a irrigation regulatory authority for rational pricing, transparency and user participation in irrigation management, however, for the present improved efficiency, increased investment, user participation and better delivery of services is essential.

Metering of agricultural supply is necessary to enable an accurate determination of agricultural power consumption. However electricity cooperatives could play an instrumental role in curbing theft and improving recovery of electricity dues. It is expected that farmers will be willing to pay higher tariffs if simultaneously quality of power supply to the agricultural sector is improved. The power subsidy should be provided in a transparent manner and maybe targeted to the small and marginal farmers on equity considerations. In addition, a move towards agricultural tariffs based on the principle of cost to serve would account for quality and time of supply variations while a graded scale of tariffs could be used to check overexploitation of water resources.

Rationalization of input subsidies in Andhra Pradesh

The previous government (led by the Telugu Desam Party) initiated some steps to contain the subsidies during 1995-2004 but was voted out of power. The newly incumbent government (led by Congress) has implemented the promise of free power and waived all the past dues. With the populist slogans ruling the roost, there appears very little scope for the rationalization of input subsidies. However, some innovative indirect approaches may cut down the burden of subsidies in the state exchequer.

Subsidies in Agriculture sector have increased considerably in Andhra Pradesh. Irrigation constituted a bulk of subsidy followed by fertilizer and power. Fertilizer subsidy declined after 2000-01 due to the drought conditions prevailing in the last three years. Power subsidy also decreased slightly after 2001-02 because of an increase in the power tariff to farmers. But irrigation subsidy and general subsidies continued to increase.

Regional distribution of fertilizer subsidy showed that the share of backward regions is gradually increasing, which indicate a more equitable use of fertilizers in different zones of Andhra Pradesh. Similarly, share of small and marginal farmers in the total fertilizer subsidy increased over time. This shows that the small and marginal farmers are getting a slightly better share in the fertilizer subsidies during 1990s than 1980s.

Irrigation subsidy was also unevenly distributed in the past. The analysis show that the South Coastal Andhra zone received 59 per cent of the total irrigation subsidies, distantly followed by North Coastal Andhra and North Telengana zones. Both the North Coastal Andhra and North Telengana zones are characterized by high rainfall, ranging between 850 mm and 1100 mm. The low rainfall zones of South Telengana and Rayalaseema account for very small shares in the surface irrigation areas and consequently, in the irrigation subsidies. Just as in case of fertilizer subsidy, the marginal and small farm size groups had larger shares in irrigation subsidy than in operated area.

It was noted that the zones, which do not receive much irrigation subsidies are getting higher shares in power subsidies.

More results of the study are yet to follow.

2.3 Agricultural Diversification and Agro-processing

Two studies on agricultural diversification are under progress in Andhra Pradesh and Punjab.

Agricultural diversification in Punjab

The rice-wheat system has attained its peak in Punjab and now causing serious damage to soil and water resources of the state. The policy framework has largely been responsible for the predominance of rice-wheat system in Punjab. Agricultural diversification has become necessary to augment the incomes of the farmers and check further degradation of natural resources. The diversification is an important strategy to overcome these problems if the market from producer to the consumer is well integrated by ensuring better returns to the farmers. During the reporting period, the study examined the constraints, possibilities and impact of market integration on income and employment. The state government's policies were also documented and assessed their role in promoting or constraining agricultural diversification.

Diversification indices for different districts/regions and for the state as a whole have been worked out for all the crops taken together and for individual crop enterprises. Production growth has been decomposed into different effects using decomposition technique. It was observed that the pace of diversification was slow and majority of the farmers prefer cultivation of rice and wheat.

However, few pockets in the state are gradually shifting towards specific high-value commodities. For example, Abohar and Hoshiarpur for Kinnow; Amritsar for chilli and tomato; Rampura and Jalandhar for potato; Mansa and Bathinda for capsicum; Kapurthala for cucurbits, Pathankot for litchi; Moga for dairying, Jalandhar for mentha, etc. Information on production, marketing and institutional arrangements has been collected and analysis is in progress.

Different models of contract farming for several commodities are emerging in the state. Important ones have been identified for the study. These include: (i) government-led contract farming; (ii) private-sector led contract farming for raw commodities; and (iii) private-sector led contract farming for processing purpose. Detailed analysis of different models for different commodities is under progress.

Agricultural diversification in Andhra Pradesh

During the reporting period, the study attempted to highlight the current shortcomings in the agriculture sector and alternatives for revitalizing the sector particularly in view of the growing demand for high value commodities that provides opportunities for diversification to high value and commercial crops. The emphasis was on effective linkages between the producer and the end users that would protect the interest of smallholders.

Three activities were performed: (i) compiled the cost of cultivation and production data for major crops grown in Andhra Pradesh state and compared with other states in India; (ii) collected and compiled Government programs/ policies promoting or hindering diversification of towards high-value commodities; and (iii) compiled literature on production and marketing of high-value

commodities, and surveyed to assess contractual arrangements promoting high-value commodities in Andhra Pradesh

It was observed that during the last two decades in Andhra Pradesh, the benefit-cost ratio declined for paddy, sorghum, groundnut and sugarcane, while increased for green gram, black gram and cotton. Livestock economics indicated positive returns to milk from buffalo and crossbred cattle. The returns were generally negative for indigenous cattle. It was also observed that dry land crops were generally faring very poorly compared to irrigated crops. But dry land crops like groundnut, maize, and pulses, flowers, and vegetables were able to show positive returns with minimal irrigation. The analysis showed that water productivity of dry land crops was much higher than the irrigated crops.

Contract farming in Andhra Pradesh is still in its infancy and is mainly restricted to hybrid seed production. Contractual arrangements are emerging in the field of poultry, particularly for broilers, gherkins and oil palm. Spices, vegetables, and poultry are emerging sectors where contract farming can play an important role. Laws governing contracts, their arbitration and rules governing their implementation would need a fresh look to make this system more viable. Successful models from other states could be replicated in the state after suitable fine-tuning.

Currently, in Andhra Pradesh, only 2-5% of fruits are processed, while large quantities (up to 20%) are lost as post-harvest losses. About 12% of tomato production is being processed. Similarly, only small quantities of fruits and vegetables are being exported (1-2%). Only in case of onion about 20% of production is exported. The high post-harvest losses can be saved through effective linkages between growers and the processing industry. The export market for processed products would be an important outlet since domestic consumers prefer fresh vegetables and fruits.

There is a need to improve the quantum of priority sector lending to agriculture and also restructure the credit delivery mechanism to reach the smallholders in more effective ways. Secure land rights can facilitate diversification as they create incentives for farmers and increase their ability to access finance from institutional sources. Effective supply chain management from farm gate to the processor /end user is an important missing link.

3. Conclusions

The studies in Andhra Pradesh and Punjab on (i) grain management, (ii) input subsidies, and (iii) agricultural diversification and agro-processing, are progressing well. A summary of the research studies in these three areas is attached in Annexure I.

During the reporting period, preliminary draft report of two research studies in Punjab were completed. These include (i) private sector participation in grain management, and (ii) rationalization of input subsidies. These are under review process before making their output as public good. Other studies on (i) grain management in Andhra Pradesh, (ii) rationalization of input subsidies in Andhra Pradesh, and (iii) agricultural diversification in Andhra Pradesh and Punjab, are in advance stage.

We express our appreciation to the USAID (India) for extending full support for undertaking policy research in 3 key areas, which influence agricultural growth in India.

Annexure I

Summary table on progress of the project

| S. No. | Activity | Achievement |
|---------------|---|---|
| 1 | Private sector participation in grain trade | <ul style="list-style-type: none">• Preliminary draft report on 'grain management in Punjab' has been prepared and under review. |
| 2 | Rationalization of input subsidies in agriculture | <ul style="list-style-type: none">• Preliminary draft report on 'rationalization of input subsidies in Punjab' has been prepared and under review.• Estimates made on inter-regional distribution of input subsidies across different categories of farmers in Andhra Pradesh. |
| 3 | Diversification of agriculture and farm-firm linkages | <ul style="list-style-type: none">• Nature of agricultural diversification in Andhra Pradesh and Punjab was studied.• Government policies reviewed to assess how these promoted or constrained agricultural diversification.• Few case studies on contract farming were studied to assess their feasibility in the context of smallholders. |